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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/944,488	08/30/2001	Warren M. Farnworth	3996US (99-0254)	1571
24247	7590	10/19/2006	EXAMINER	
TRASK BRITT P.O. BOX 2550 SALT LAKE CITY, UT 84110			LUK, EMMANUEL S	
			ART UNIT	PAPER NUMBER
			1722	

DATE MAILED: 10/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/944,488

**Applicant(s)**

FARNWORTH, WARREN M.

**Examiner**

Emmanuel S. Luk

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-31, 51-66 and 75-84 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 17-31, 51-66 and 75-84 is/are allowed.
- 6) ☒ Claim(s) 1-3, 9, 15 and 16 is/are rejected.
- 7) ☒ Claim(s) 4-8 and 10-14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1, 2, 3, 9, 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable by Weber (5609889) in view of Steijer and Rano.

Weber teaches a first platen (22) and second platen (23') wherein an alignment recess (51;51A) are provided for allowing alignment of the individual electronic component assemblies within the cavities (25;27).

Weber fails to teach a plurality of shallow alignment elements from a plurality of shallow recesses and cavities extending therethrough the platen.

Steijer et al teaches the claimed apparatus having a first platen (1) with a plurality of alignment elements projecting therefrom (73, 85), the sets of alignment elements for engaging sets of alignment features of a like electronic component assembly and a

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second platen (17) having a plurality of spaced locations corresponding to the first platen (19), including sets of alignment receptacles (87). The alignment are pins and there at least two alignment elements located adjacent each component cavity (Fig. 1). The first and second plates are releasably securable via clamping structure (Col. 9, lines 27-34 and 38-45).

Weber already teaches alignment elements within the recess, thus it would have been obvious to utilize the alignment elements of Steijer into Weber for the same function to further provide alignment of the articles.

In regards to the plurality of electronic component assemblies, these are part of the product that are placed into the apparatus and are intended use of the apparatus. The structure for accommodating the assemblies are the recesses and it would have been obvious for one of ordinary skill in the art to modify the apparatus to accommodate a plurality of recesses thereby allowing for producing a plurality of products which is merely a duplication of parts for a multiplied effect.

It would have been obvious to one of ordinary skill in the art to modify Weber with a plurality of cavities as taught by Steijer thereby ensuring a plurality of electronic component assemblies can be manufactured.

In regards to the cavity extending therethrough the platen, Rano teaches the second platen (20) with cavities (24) that extend therethrough the platen. The concept of having the cavity accommodate for the electrical components for encapsulation and the cavities extend through the platen is known in the art. Having the cavities to not extend therethrough would still provide and equivalent function as those taught by

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Weber and Steijer. Thereby it would have been obvious for one of ordinary skill in the art to modify Weber with the cavities extending therethrough the platens as taught by Rano as the elements have equivalent function.

### ***Response to Arguments***

4. Applicant's arguments filed 7/24/06 have been fully considered but they are not persuasive in light of the new rejection. The applicant's arguments have been considered, in regards to the plurality of recesses and parts, the rejection have now been changed to address the arguments. In regards to Weber teaching away from the alignment elements, while Weber teaches there is no need for other elements to be used, it does not teach that further improvements for improved alignment cannot be used in the apparatus. Merely that the structure taught by Weber is sufficient for alignment of the articles. In regards to the arguments concerning the platen having cavities extending therethrough, this is also addressed in the above rejection.

### ***Allowable Subject Matter***

5. Claims 17-31, 51-66, and 75-84 are allowed.
6. Claims 4-8 and 10-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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7. The following is an examiner's statement of reasons for allowance: The prior art of record fails to teach a stereolithography machine having a first and second platen having sets of alignment elements and a plurality of cavities that engage the platen assembly support structure, the system further having a computer for and machine vision system for controlling the stereolithography system. In claim 51, the system enables inversion of the platen assembly via rotation about a horizontal axis. The closest prior art, Rano et al, Farnsworth et al, Steijer et al and Chang et al, fail to teach this arrangement of the platen structure located in a stereolithography apparatus.

In the objected claims, the prior art of record fails to teach a first and second platen for processing of a plurality of electronic component assemblies in which there a plurality of alignment elements projecting from the recesses of the first platen, and further the cavity is subdivided into subcavities by strut members.

### ***Conclusion***


8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel S. Luk whose telephone number is (571) 272-1134. The examiner can normally be reached on Monday-Fridays from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra N. Gupta can be reached on (571) 272-1316. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EL

  
JOSEPH S. DEL SOLE  
PRIMARY EXAMINER  
10/16/06